

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application.

LISTING OF CLAIMS:

1. (Currently Amended) A catheter assembly comprising:
an outer catheter and an inner catheter that can be inserted into said outer catheter;
said outer catheter being comprised an outer catheter body comprising at least an inner layer, an outer layer, and a reinforcing layer interposed between them, a flexible soft tip attached to a distal end of said outer catheter body, and an outer catheter hub attached to a proximal end of said outer catheter body;
said inner catheter being comprised a hard proximal part, a distal part softer than said hard proximal part, and an inner catheter hub formed at a proximal end of the proximal part, and
wherein, an inner surface of said outer catheter and an outer surface of said inner catheter are not fixedly secured to one another such that said inner catheter is removable from said outer catheter when said outer catheter hub and said inner catheter hub are disengaged from each other, and
wherein, when said outer catheter hub and said inner catheter hub are engaged with each other, said two catheters do not rotate and move relative to each other, and at least a part of said inner catheter protrudes from a distal end of said outer catheter, with the distance between the distal end of said outer catheter and a distal end of said inner catheter being no more than 10 mm, and

wherein said inner catheter is withdrawn from said outer catheter after the catheter assembly has been placed at a target site, and a procedure catheter is then inserted into said outer catheter, which remains at the target site.

2. (Original) The catheter assembly as set forth in Claim 1, wherein the inner catheter comprises a second soft tip with flexibility at the distal end.

3. (Original) The catheter assembly as set forth in Claim 2, wherein the second soft tip comprises a larger wall thickness than the soft tip of the outer catheter.

4. (Previously Presented) The catheter assembly as set forth in claim 1, wherein the distal part of the outer catheter body comprises a predetermined curved portion.

5. (Original) The catheter assembly as set forth in Claim 4, wherein the outer catheter hub is engaged with the inner catheter hub in such a way that the boundary between the hard proximal end and the flexible distal end of the inner catheter is located on the proximal side from the curved portion of the outer catheter body.

6. (Previously Presented) The catheter assembly as set forth in claim 1, wherein the inner catheter is of single-layer structure made of a resin containing no reinforcing material over the entire length.

7. (Previously Presented) The catheter assembly as set forth in claim 1, wherein the outer catheter comprises a size such that the ratio of the outside diameter to the inside diameter is no smaller than 0.89 and no larger than 0.95.

8. (Previously Presented) The catheter assembly as set forth in claim 1, wherein the outer catheter comprises a wall thickness smaller than that of the inner catheter.

9. (Previously Presented) The catheter assembly as set forth in claim 2, wherein the distal part of the outer catheter body comprises a predetermined curved portion.

10. (Previously Presented) The catheter assembly as set forth in claim 3, wherein the distal part of the outer catheter body comprises a predetermined curved portion.

11. (Previously Presented) The catheter assembly as set forth in claim 2, wherein the inner catheter is of single-layer structure made of a resin containing no reinforcing material over the entire length.

12. (Previously Presented) The catheter assembly as set forth in claim 3, wherein the inner catheter is of single-layer structure made of a resin containing no reinforcing material over the entire length.

13. (Previously Presented) The catheter assembly as set forth in claim 4, wherein the inner catheter is of single-layer structure made of a resin containing no reinforcing material over the entire length.

14. (Previously Presented) The catheter assembly as set forth in claim 5, wherein the inner catheter is of single-layer structure made of a resin containing no reinforcing material over the entire length.

15. (Previously Presented) The catheter assembly as set forth in claim 2, wherein the outer catheter comprises a size such that the ratio of the outside diameter to the inside diameter is no smaller than 0.89 and no larger than 0.95.

16. (Previously Presented) The catheter assembly as set forth in claim 3, wherein the outer catheter comprises a size such that the ratio of the outside diameter to the inside diameter is no smaller than 0.89 and no larger than 0.95.

17. (Previously Presented) The catheter assembly as set forth in claim 4, wherein the outer catheter comprises a size such that the ratio of the outside diameter to the inside diameter is no smaller than 0.89 and no larger than 0.95.

18. (Previously Presented) The catheter assembly as set forth in claim 1, wherein the outer catheter comprises a wall thickness smaller than that of the inner catheter.

19. (Previously Presented) The catheter assembly as set forth in claim 2, wherein the outer catheter comprises a wall thickness smaller than that of the inner catheter.

20. (Previously Presented) The catheter assembly as set forth in claim 3, wherein the outer catheter comprises a wall thickness smaller than that of the inner catheter.

21. (Previously Presented) The catheter assembly as set forth in claim 1, wherein, when said outer catheter hub and said inner catheter hub are disengaged from each other, said inner catheter is removable through the proximal end of said outer catheter body.

22. (New) The catheter assembly as set forth in claim 1, wherein said inner catheter is longer than said outer catheter such that, when said outer catheter hub and said inner catheter hub are engaged with each other, said distal end of said inner catheter protrudes from a distal end of said outer catheter by no more than 10 mm.

23. (New) The catheter assembly as set forth in claim 2, wherein the second soft tip defines a round end having a length of about 0.5 to 3mm.

24. (New) The catheter assembly as set forth in claim 1, wherein said outer catheter is defined by a continuous and integral tube.

25. (New) A catheter system comprising:

an outer catheter, said outer catheter including an outer catheter body having a given length, said outer catheter body comprising at least an inner layer, an outer layer, and a reinforcing layer interposed therebetween, a flexible soft tip attached to a distal end of said outer catheter body, and an outer catheter hub attached to a proximal end of said outer catheter body, wherein said inner layer, outer layer and reinforcing layer extend an entirety of the given length of said outer catheter body;

an inner catheter, said inner catheter being comprised a hard proximal part, a distal part softer than said hard proximal part, and an inner catheter hub formed at a proximal end of the proximal part inner, said inner catheter further comprising a second soft tip defined by a distal end; and

a procedure catheter;

wherein a length of said inner catheter is greater than a length of said outer catheter such that, when said outer catheter hub and said inner catheter hub are engaged with each other, a distal end of said inner catheter protrudes from a distal end of said outer catheter by a distance of no more than 10 mm;

wherein said inner catheter and said procedure catheter are insertable into said outer catheter;

wherein, with said inner catheter inserted in said outer catheter and said outer catheter hub and said inner catheter hub engaged with each other, said inner and outer catheters do not rotate or move relative to each other such that said outer catheter and said inner catheter are introduced together to a target site;

wherein, when said outer catheter hub and said inner catheter hub are disengaged from each other, an inner surface of said outer catheter and an outer surface of said inner catheter are not fixedly secured to one another such that said inner catheter is removable from said outer catheter; and

wherein, after the catheter assembly has been placed at a target site, said inner catheter is removed from said outer catheter and the procedure catheter is then insertable into said outer catheter which remains at the target site.

26. (New) The catheter assembly as set forth in claim 25, wherein the second soft tip defines a round end and has a fixed length of about 0.5 to 3mm.

27. (New) The catheter assembly as set forth in claim 25, wherein said outer catheter is defined by a continuous and integral tube.